

SPINDLE MOTION ERROR TEST SUMMARY REPORT

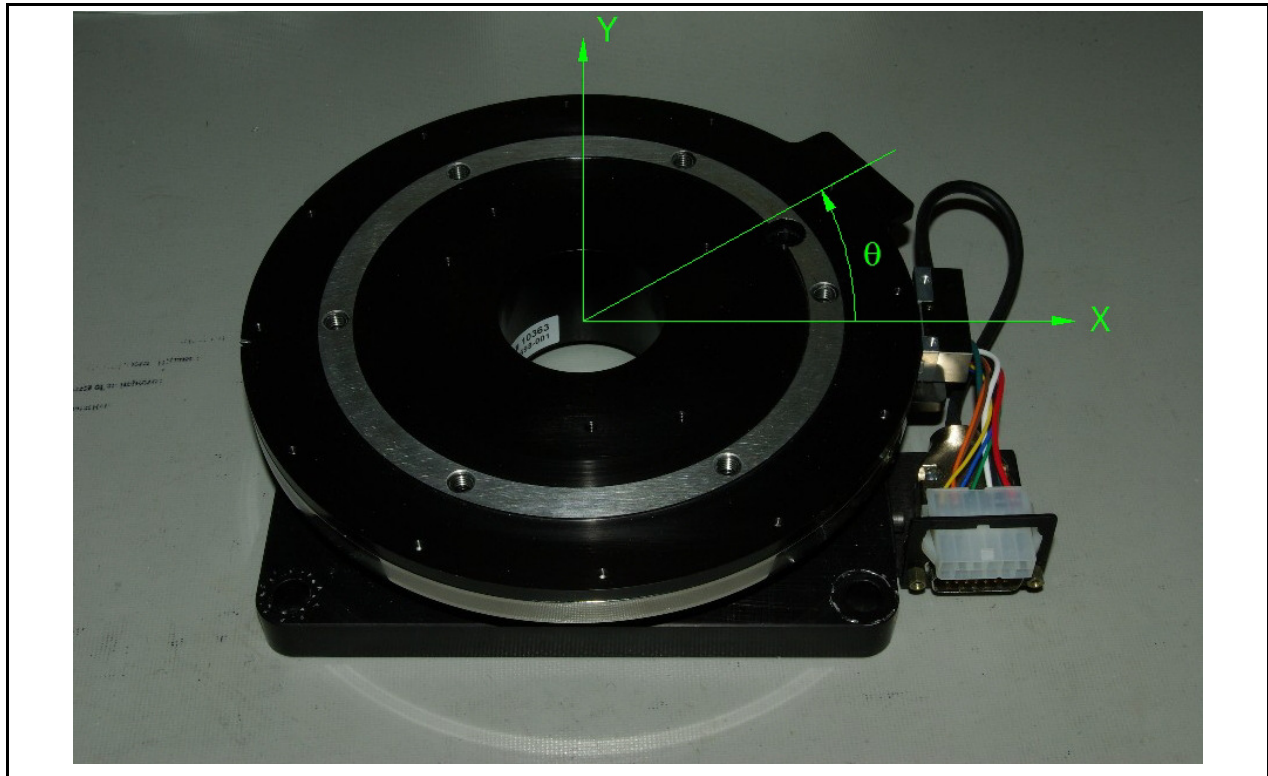
Spindle ID: DFS0021A
Manufacturer: Bell-Everman
Model: DDT200MT
Serial Number: 10363

Date of Test: February 20 & 24, 2012
Date of Report: February 29, 2012

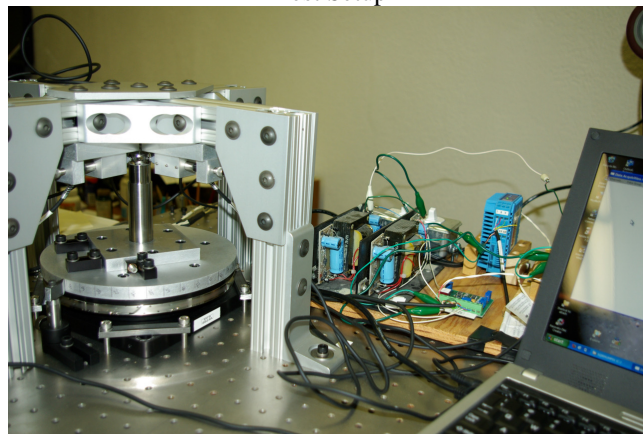
Test Conditions:
Axis Orientation: Vertical
Drive: Internal Motor
Controller: Copley Controls 5224AC
Rotation Rate: 2.23 rpm

Equipment and Settings:
4 LVDT Sensors; two opposed pairs
Low Pass Filter: 62 cycles per turn
Data Rate: 100 samples/sec, each channel
Test Artifacts: 1 inch diameter; 10 μ inch
sphericity

Definition of Coordinate Axes

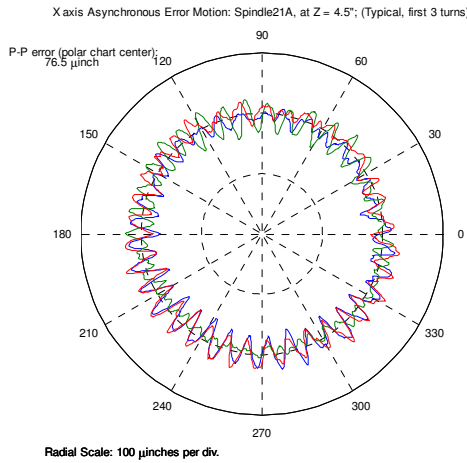


Test Setup

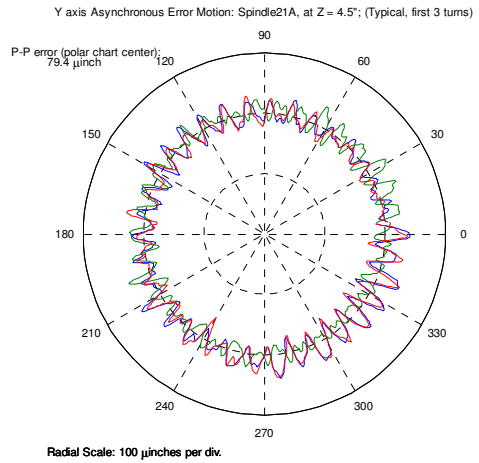


Asynchronous Motion Error

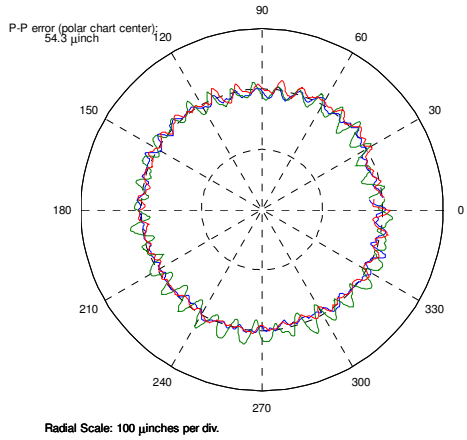
X axis



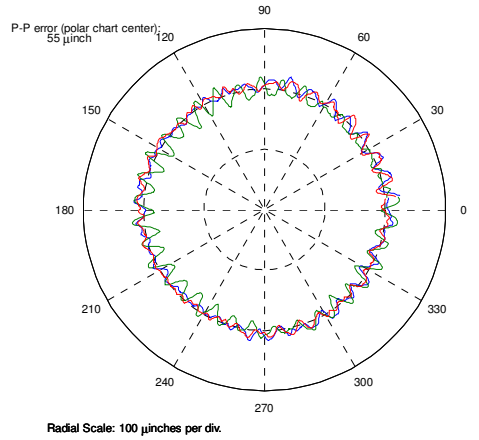
Y axis



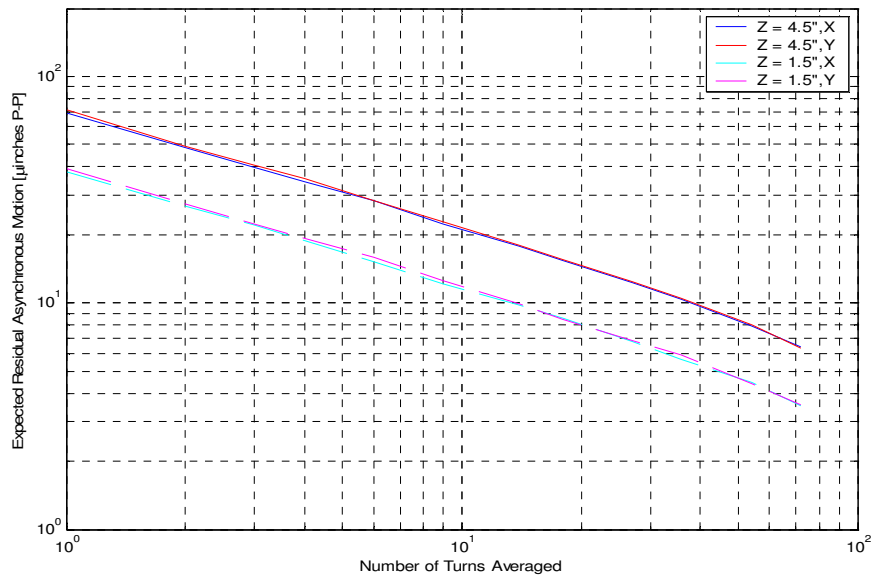
X axis Asynchronous Error Motion: Spindle21A, at Z = 1.5"; (Typical, first 3 turns)



Y axis Asynchronous Error Motion: Spindle21A, at Z = 1.5"; (Typical, first 3 turns)

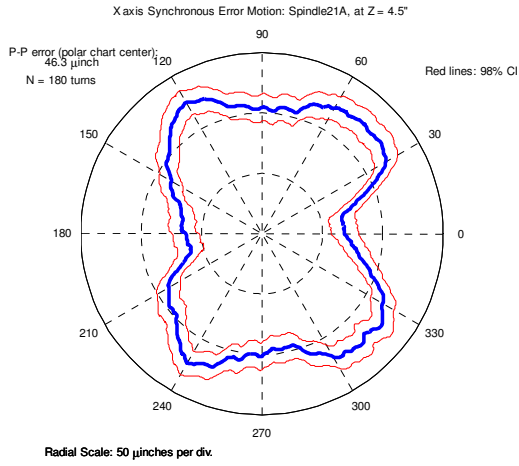


Averaging Asynchronous Motion: Spindle 21A

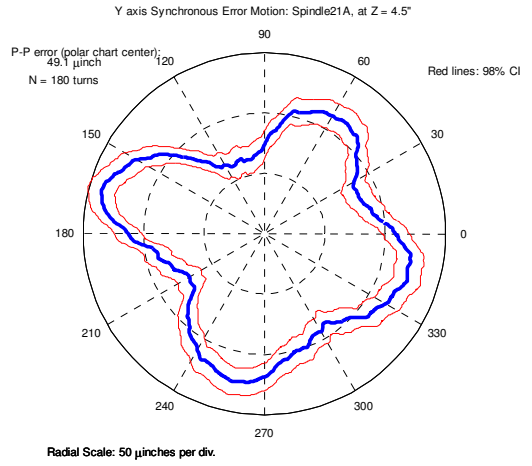


Synchronous Motion Error

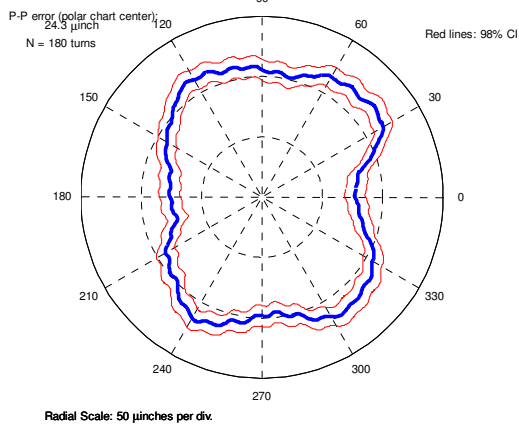
X axis



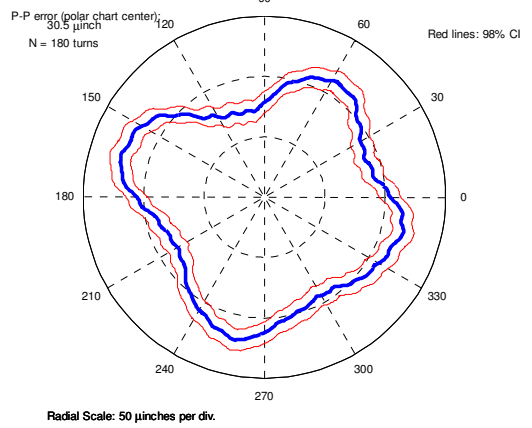
Y axis



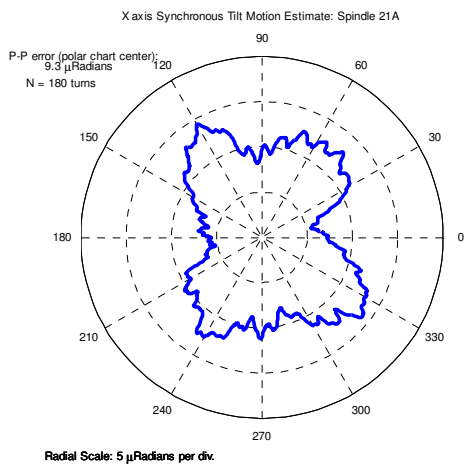
X axis Synchronous Error Motion: Spindle21A, at Z = 1.5"



Y axis Synchronous Error Motion: Spindle21A, at Z = 1.5"



$[\theta_y]$



$[\theta_x]$

